

ABSTRACT

The present invention provides methods for the beneficial genetic transformation of plants based on transfer of genetic information mediated by mRNA rather than DNA. mRNA was extracted from the cotyledon and sprout of soybean and both mRNAs were separately used to treat corn kernels which were then planted. The results of protein extraction and analysis revealed that these corn kernels contained soy globulin. Furthermore, Southern and Western blotting techniques confirmed that this soy mRNA-induced soy globulin protein was encoded by soy DNA which was incorporated into the corn genome and transmitted to subsequent generations of corn.